

## **Computer-mediated English language learning ‘in a Beehive’**

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This article introduces a study which comprises the results of a multimodal computer-mediated school project ‘Beehive’ in Kajaani Teacher Training School. It considers how computer-mediated communication can be incorporated into teaching English when pupils are at the early stages of basic education. This research is one of the several case studies within the research project MAILL<sup>1</sup> which has a broad interest in language learning, both within and outside formal education. The results show a success of the learning project and suggest that computer-mediated multimodal environments reinforce the pupils’ linguistic identities and encourage them to use their foreign language.

**Keywords:** multimodality, communication, motivation, collaboration

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<sup>1</sup> Ks. <http://www.oulu.fi/hutk/english/MAILL/>.

## 1 Introduction

Authentic situations for using a foreign language are often lacking in the school classroom. The implementation of this project showed that modern computer-mediated communication facilities and a well-designed virtual environment can make authenticity possible. Multimodal communication, grammatical awareness and self-expression are naturally intertwined in this project.

In keeping with an ethnographic research tradition, the writer of this paper took on the role of a teacher-researcher and a tutor for the apprentice teachers; both roles entail pondering issues of language learning from the school pupil perspective. The writer took part in planning and developing the process as well as carrying out the project and collecting data. Data analysis was based on the taped material from the pupils' feedback discussions and essays at the beginning and at the end of the project at the Kajaani Teacher Training School.

The study is qualitative in nature and the research method relies on the principles of Mediated Discourse Analysis (MDA) (cf. Scollon 2001, 2002). The method attempts to discover and unify units of analysis of several areas. The particular focus will be on the mediated action. In focusing on *action*, the method combines different research traditions including ethnography, text and discourse analysis and social semiotics. In addition, this study exploits various data. Scollon has developed MDA further to the research program nexus analysis which includes engaging, navigating and changing. From this view, the

crucial starting point of this paper is observing how these actions apply to changing the practice.

This research is valid because it compares quantitative and qualitative data as well as recorded observation, field notes, interviews and essays to see whether they corroborate one another. This provides triangulation. Ethical issues concerning the anonymity of the research subjects in this study have been considered carefully (Kuula 2006).

The videoed interview conversations follow the practice of *active interview* (cf. Silverman 1997, 2001). Interviews are conversations where meanings are not only conveyed, but knowledge and meaning are socially constituted and cooperatively built up, received, interpreted and recorded by the interviewer (cf. Holstein & Gubrium 1997: 113–114).

## 2 Computer-mediated language learning

Rüschhoff and Ritter (2001: 203) combine theories from cognitive science with a social perspective. In their view, knowledge is seen as something that must be constructed, not something that can be transformed; learning is understood “as an active, creative, and socially interactive process”. The main focus is on the learner, who builds on existing knowledge with the help of others, using authentic material in authentic situations, all of which are central to a constructivist learning approach. Hawisher (1994) suggests that the instruction of networked technologies in education coincides with a shift in education

from an interest in cognitive and developmental theories of learning to a social and collaborative view of learning.

Computer-mediated communication offers the *affordance* of online socializing and networking. This means that the technology enables or creates the opportunity to foster socialization. However, computer-mediated communication will not, in itself, create social interaction. A sensitive and appropriate conference design and the tutor's intervention provide the reason and impetus for socializing. It is important to foster in participants the feeling of community and shared responsibility, i.e. "we are working together at common tasks". The most important consideration in achieving best practice is the distinction between delivering static content and creating interactivity and connectivity (cf. Preece 2000).

Foreign language education requires a new orientation for teaching. In order to find appropriate ways of teaching online, one needs to review the research dealing with collaborative learning and group development. Firstly, teachers should enhance the learners' social and learning skills. The role of the language teacher becomes that of a language educator. In addition to the knowledge of the foreign language, the teacher should have a command of such basic skills and qualities as the following: a flexible and wide repertory of different learning and teaching methods; the ability to encounter and collaborate with individuals, different groups of people and communities; and the responsibility and willingness to develop awareness of all human life including the broadening of one's views and conceptions through understanding different

patterns of thought, cultures and societies. Secondly, it is important to note that personality and motivational factors are bidirectional and need to be considered in the learning process (cf. Kohonen 1992).

The primary goal for language teaching is to understand language (native and foreign) as a valuable resource and as an integral part of human growth. Language teaching needs to create a learning environment which provides pupils with a consciously structured set of opportunities to grow in language usage. The second goal of language teaching is to understand the essence and importance of a language in the human (social) action (cf. e.g. Vološinov 1929), to understand it as one part of the human dialogue, as a bridge that leads to intersubjectivity. The third goal of foreign language teaching is to understand the importance of language as a mediating element in culture and society (cf. Kohonen 2001).

Important experiences for students can provide significant learning for personal growth and they deserve careful thought. This is what experiential learning is about: learning from experience through reflection (cf. Lamy & Goodfellow 1999). When learning experientially, we create new meanings in our immediate reality, in our existing meaning-structures and in our personal life-world. In this sense, all meaningful learning is experiential learning.

Computer-mediated communication fosters foreign language communication. There are certain factors that empower students to learn the language. Meunier (1998)

states that the following eight factors clearly empower students to learn the value of communication in a foreign language. The strongest asset of synchronous computer-mediated foreign language communication (CMFLC) is the kind of communication it promotes; on-line participants find themselves intrinsically and socially motivated by electronic discussions for the reasons introduced in Table 1.

TABLE 1. The factors that strengthen students to learn the value of communication in a foreign language (Meunier 1998: 177–178).

<b>CMFLC</b>	<b>Students</b>
◆ encourages participation from students who do not usually speak in class.	• are interested in their peers' ideas and thrilled by the authenticity of their exchanges.
◆ holds interest and concentration time.	• are in control of the discussion but without the pressure of other students waiting for answer to be completed participating at their own pace.
◆ enhances both computer literacy and foreign language use.	• realize that they can be understood and that they can sustain a discussion.
◆ monologue-type exchange (a text containing no invitation to interaction )	• find it attractive to write casually as if passing notes in a class.

### 3 The learning project 'Beehive'

The goals of the Beehive project are linked to different aspects of language learning in multicultural and multi-

modal environments as well as the pedagogic use of information and communication technologies. The project aimed at: (1) strengthening the participants' capacities in communicating and interacting in a foreign language in computer and web-enhanced multicultural environments (language learning); (2) giving the participants the experience of working and studying in a multicultural and multilingual community (multicultural communication); and (3) familiarizing the participants with different technologies of learning and work (information and communication technology).

The activities were planned according to the following conception of learning: to learn, we need to construct meaning, and this basically takes place through collaborative interactions. Through language, individuals shape their identities and become part of different communities. In these communities they interact, collaborate and take part in new social actions and learning experiences, thus actively constructing new knowledge. As a result of this interaction, individuals learn from the experiences of the others. People's cultural histories and experiences always influence their learning. An improved understanding of the students' whole life-world, including that lived outside school, would help teachers to design institutional learning events that are meaningful for their students.

The Beehive project combined English language learners from two Finnish comprehensive schools (pupils aged 10–11), two Spanish secondary schools (pupils aged 11–15) and a school for the deaf (pupils aged 11–15), for two months. English Majors from the University of Oulu de-

veloped a web-based multimodal learning environment. All the participants used Optima<sup>2</sup> as a computer-mediated learning environment; pupils participated once a week during their school hours and voluntarily as often as they liked. Apprentice teachers acted as tutors for their learner groups. The virtual environment was created in English with the theme ‘Life Outside School’. Pupils began collecting data related to the theme from their everyday life in the form of pictures and messages in their environment and material concerning their hobbies. The most popular subjects were movies, music, sports, games and pets. These provided a resource bank of discussion for students in the discussion area.

The environment included a discussion forum built upon sequenced entries. In the discussion area, pupils introduced themselves (goal 1), read messages and put forward questions and comments to each other (goals 2 and 3). In the second phase, pupils chose a club according to their own interest. The clubs were developed in progress of the project. In each club, an adult produced tasks and tutored the club members. Two-way synchronous contacts were arranged twice during the period by using Messenger videoconference facilities.

### 3.1 Motivation

The interview situations were recorded on videotape in Kajaani Teacher Training School. Overwhelmingly, pupils described their expectations referring to the project as *fun* ‘kivaa’. From the start, participants looked forward

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<sup>2</sup> Ks. <http://www.discendum.com>.

to genuine communication, i.e. communicating for a purpose other than fulfilling a classroom exercise. As the feedback reveals, pupils were interested in their peers' ideas in general and were thrilled by the authenticity of the new 'real' contacts as described in quotations (1 and 2):

- (1) it will be OK to have a talk with foreigners by writing
- (2) hmm, I think it will be nice to chat to the Spanish and you know, talk with foreigners in English, it surely will be fun

Some pupils felt at the very beginning of the project that getting started with discussion was difficult or puzzling because of their anxiety in (1) familiarizing themselves with the new virtual environment (2) showing personal English language skills or (3) facing something unfamiliar as illustrated in the following quotations (3–4) from the pupil interviews:

- (3) what if there will be something weird, well I mean if somebody writes odd things in a strange way, and so you won't understand
- (4) I hmm (what do you think about yesterday), well nothing (how would you describe yesterday), I don't know about that English language in that chat, it will be hard

At first, the pupils who were puzzled or worried may have assumed that they were supposed to take more responsibility than usual for their own actions in a foreign language in a new communication situation. However, in time, language anxiety was minimized, especially during online conferencing. With some tutoring, students found the virtual environment less threatening than expected.

The pupils were encouraged to use the target language without feeling embarrassed. With lowered inhibition and ego barriers, communication could take place freely.

### 3.2 Success

At the end of the project pupils were asked to write an essay on their thoughts about the Beehive project and the work and tasks related to it. Pupils wrote that they liked all the project activities but they preferred chatting and other synchronous online sessions, which, for them, were the most meaningful activities of the Beehive. Pupils evaluated the project in the same way as at the beginning, by frequently using the word *fun*. *Fun* in the feedback (e.g. quote 5) reflects what is suggested by research on motivation and enjoyment. They both derived from personal and experiential communication:

- (5) Beehive tasks have been fun (though a little boring). It is fun talking with foreigners and strangers. Less computer work might be a good idea. Also the beehive web sites in the Internet are good. The connection by messenger with Merikartano in Oulu was the hit!! ☺ The best activity so far [...]. Partly it was a bit difficult because they didn't use any pictures or equipment concerning their hobbies. Well, that was one minus – [...]. I think one of the best things on beehive web sites is chat. In chat you can discuss with a foreigner or a stranger. Writing messages was fun, too...☺... Also the clubs are good!!! ☺ [...]. It's a pity beehive ENDS.

The recorded project statistics show that frequent “lurking” and “browsing” facilitated project socialization and lowered language anxiety. A survey of message lists and

recorded chat areas reveals the variety of language. The message chains represent that pupils found it attractive to write casually. One can say that the language produced resembled more closely oral discourse in terms of both linguistic complexity and degree of interactiveness.

Furthermore, some pupils wrote that the project was advantageous because they learnt more English. The pupils' feedback matches the theory: successful language use over time and exploiting every occasion for foreign language communication situation leads to conscious language learning. A few pupils mentioned that the project activities differed from ordinary schoolwork.

Some essays dealt with plans for future projects (quotes 6 and 7). Four pupils wrote that the project period should be longer. Some wanted more tasks and activities (5), more face-to-face videoconferences (4), more personal messages on discussion lists (2). One wished more involvement from other participants on chat and another less computer work.

(6) Well sometimes [...] it's been boring if you don't understand anything, however mostly it's been nice to chat with e-pals about the tasks and things [...]. It is interesting to meet people who dig same or different things. It's a shame my group didn't have enough time for videoconferencing. [...]. I just didn't remember to check my email too often. 😊

(7) It was fun but it might have been even funnier if there were more replies on discussion lists, besides I wished more "messenger talking". I didn't get any new friends but it was fun to read long, English mails and it was nice

to write them as well [...]. Nobody was on chat and if there was somebody, he or she didn't say anything [...].

The criticism may be explained by Ely's (1986a, 1986b) observation that it is important to bear in mind that computer-mediated communication will not, in itself, create the social interaction. It is the appropriate network design and the tutor's intervention that allows socializing to occur. Another point is that the socio-affective environment is a significant factor in maintaining the pupils' participation (e.g. Ely 1986a, 1986b). Even if the pupil's initial and global motivations are strong, boredom in a classroom can hinder language acquisition (e.g. Pica 1987).

Two weeks after the project, the 21 pupils evaluated the project by assigning grades from 4 to 10 as in the Finnish school system. The total assessment averaged out to exactly 8, which can be expressed otherwise as "the project was good". The highest marks concerned pupils' personal know-how and feeling of having succeeded in the project. The highest averages (8.1 to 8.6) tell that pupils evaluate their personal language proficiency and attitude towards communication situations as 'very good'. It is noteworthy that most project participants had been learning English as a second language for only two years.

Success might be a consequence of the pupils' realization that they were understood and that they could maintain a discussion. It might be interesting to consider whether their *very good* or *good* language proficiency was solely an outcome of school teaching? The pupils' self-reliance

can be attributed to the fact that computer-mediated communication facilitates more equal participation because one can communicate concurrently without interference. Pupils assessed their language proficiency in reading, writing and oral skills as *very good*. The results show that pupils responded well to the project and felt that they had been active in it. The best estimate (8.6), verbally *excellent* is the average of how the pupils evaluated their reading skill.

The evaluation *satisfactory* concerned the pupils' conception of development in English language proficiency during the project (6.8) and their relationship with other participants. The variation in the given marks warrants further study: What might have been the reason for the lowest evaluation (0) at the individual level (3 out of 21 pupils)? Most pupils (17 out of 21 pupils) evaluated their development in language proficiency as *good* or *very good* (marks 7–9). The result can be explained by the fact that during the project sessions nothing new was taught in a traditional way. Instead pupils were encouraged to draw on their language skills, which was also one of the project goals. The wish to make friends with the other participants developed within the project period. It was determined that a larger group would have been difficult to accommodate during the project.

Pupils evaluated in various ways the meaningfulness of project activities as well. Fifteen out of twenty evaluated this aspect of the project by assigning the grade 8 or 9, verbally *good* or *very good*. However, the average (7.2) and the variation in the given marks (0–9) evaluations

raise the question of whether the pupils' and adults' ideas of meaningful tasks and activities converge at the individual level.

#### 4 Discussion

It is obvious that the constructivist view in computer-mediated communication promotes learning when learning is understood as an active, creative, and socially interactive process.

Networked computers can serve all vehicles for learning materials and interaction, but students still need the teacher who can make learning relevant and enliven a classroom. Teaching methodologies should promote the development of functional language ability through learners' participation in communicative events. Teachers have to think through the design of not so structured "real life model" learning experiences for their pupils.

Computer-mediated communication can facilitate more equal participation because people can communicate concurrently without interference. Pupils who are inhibited can freely participate without calling attention to themselves. Those who participate in the network need to be highly motivated and self-disciplined because the feedback and excitement of face-to-face interaction are missing, teachers need to develop strategies to encourage participation and to help students take an interest in what they do.

In a computer-mediated environment, learning becomes interactive. The learners have someone available from whom they can get an individual response to their queries or a new idea and from whom they can get a challenging alternative perspective. Pupils can contribute to other pupils' learning and they learn in the process of doing so. They become responsible for their own learning through computer-mediated opportunities.

Teachers should pay attention to active experimentation, the communicative use of language in meaningful situations in which affective factors are to be taken into consideration. Emphasis of teaching shifts even further towards reflecting on the personal, emotional and social factors.

## 5 Conclusion

This paper has discussed how computer-mediated communication can be successfully incorporated into teaching English at the early stages of basic education. The proposal pointed out how the research program was carried out by following the principles of nexus analysis (MDA) and ethnography. The results of the study point to the success of the project. The feedback from different sources indicates that a feeling of success fortified the pupils' linguistic identity and that they felt more confident about themselves and their abilities in English. Students enjoyed using the language and were encouraged by their success in communicating with each other; the result was a boost to their learning.

Most of the communication situations were asynchronous, and stressed reading and writing skills. Pupils appreciated their personal language proficiency and felt confident in using a foreign language. The time and effort that the students spent in building up adequate expressions paid off. Possibilities to correct mistakes at one's own pace in privacy encouraged pupils to produce more of the foreign language than they usually do.

The number of exchanges and the various ways of getting the pupils to communicate during the project revealed that the multimodal environment increased communication and offered the participants more personal opportunities to use the foreign language than in an ordinary language classroom. Language was used for a purpose to attain practical ends.

More research is needed that compares participation patterns of face-to-face versus electronic small group discussions. We need research on computers and education, not only on the pedagogical and social virtues of computer technology but also for determining exactly in which ways language, learning, and interaction have been transformed by the use of networked and hypertext technologies in our classrooms.

The affective framework in teaching means that learners feel comfortable, and to achieve this, they need encouragement in experimenting with and discovering the aspects of the target language. Language teachers can also educate learners to be responsible members of society and to live satisfying lives. To do this we need to be concerned with both the cognitive and affective natures and

needs of students. The relationship between affect and language learning is bidirectional. Attention to affect can improve language teaching and learning.

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